

AC NO: 120-32

DATE: 3/25/77



ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

SUBJECT: AIR TRANSPORTATION OF HANDICAPPED PERSONS

1. PURPOSE. This Advisory Circular is to identify the problems handicapped air travelers face and to provide guidelines to airline personnel to help alleviate these problems. This circular explains, among other things, how to assist blind and deaf persons, where to place dog guides, and where to seat handicapped passengers.
 2. BACKGROUND. This Advisory Circular is based on comments received in response to Advance Notice of Proposed Rule Making 73-16 and to Notice of Proposed Rule Making 74-25, comments made at six public hearings conducted throughout the United States, and the results of tests conducted at the Civil Aeromedical Institute.
 3. DEFINITION OF A HANDICAPPED PASSENGER. For the purpose of this circular, a handicapped passenger is a person who may need the assistance of another person to expeditiously move to an exit in the event of an emergency. These people have a disability or condition that could lead to a significant delay during an emergency evacuation of an aircraft or could increase the risk of that person being injured during the evacuation. Handicapped passengers are categorized as:
 - a. Ambulatory. A passenger who is able to board and deplane from the aircraft unassisted and who is able to move about the aircraft unassisted. This includes the blind, deaf, mentally retarded, etc.
 - b. Nonambulatory. A passenger who is not able to board and deplane from an aircraft unassisted or who is not able to move about the aircraft unassisted.
 4. ATTITUDES. The attitude of airline personnel, particularly to the average permanently handicapped passenger, must take into consideration the fact that this passenger may need little, if any, assistance. Many handicapped persons have unique capabilities to move about in an environment in which obstacles are continuously confronted. The
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Initiated by: AFS-220

personality of a handicapped person is usually no different than that of the nonhandicapped, especially with respect to pride and competitiveness. Therefore, to provide assistance without inquiring whether or not it is needed, or on the other hand to ignore a handicapped passenger, can lead to a strained relationship. For example, when a passenger is pushed in a wheelchair to the ticket counter, frequently the agent will address the person pushing the chair rather than the person in the chair.

5. ASSISTING DISABLED PERSONS. The handicapped person knows best the manner in which he can be assisted, and flight attendants should not hesitate to discuss this with the individual. Keep in mind that different disabilities have different needs, and injury can result if a person with a disability is improperly assisted. Handicapped travelers usually fall into one of the following categories:
 - a. Persons with limited endurance. Persons with limited endurance due to a heart or lung condition require very little extra attention. They should, however, avoid any unnecessary physical exertion and not be required to stand in long lines for tickets or boarding. They should always be allowed and encouraged to board early and avoid the bustle and congestion. When there are long distances between boarding stations and terminals, they should be assisted in finding transportation between these points. When it is necessary to take them in a wheelchair, always use one that has footrests.
 - b. Persons with arms or legs in casts or splints. Persons with arms or legs in casts or splints require very little extra attention. It is important to ask the passenger how you can best help, such as by propping the cast up as much as possible to keep swelling and discomfort to a minimum. For example, with an arm cast, when a person is seated, the elbow should be resting on the armrest and the hand elevated with pillows. Space limitations may make it more difficult to prop up leg casts, but this should be accomplished when practicable.
 - c. Persons lacking muscular control. Airline personnel are almost certain to encounter passengers who are lacking, to some extent, in muscular control, whose movements are jerky and uncoordinated, and whose speech is not clear. These travelers can be assisted by putting them at ease. Maintain a relaxed, unhurried approach and be alert for thoughts or expressions, not words. If in doubt, politely repeat what you think the person has said. Sometimes such disabilities are fairly subtle, resulting in slurred speech, a staggering gait, or other slight signs of motor difficulties. Such disabilities are frequently misconstrued as being associated with inebriation. Airlines may wish to have "communications boards" or alternate means of communication for use by individuals who are not able

to speak at all. Airline personnel should be cautioned against presuming that individuals with severe speech problems and persons with no speech are intellectually impaired.

- d. Persons with paralysis of arms and/or legs. Other disabled persons will be those with a form of paralysis in arms, legs, or both. Paralysis that extends from neck to shoulder level down is called quadriplegia. Paralysis from the waist down is called paraplegia. Hemiplegia is the paralysis of one side of the body.

- (1) Some post-polio adults will be able to manage some limited walking with the aid of braces or crutches. Once aboard, they may be able to move down the aisle on their own by leaning on the backs of the seats.
- (2) Some paralyzed persons may have lost all sensation in the part of their bodies affected by paralysis. They may not be able to feel pain or touch or distinguish hot or cold. Because there is no warning signal of pain for people with this kind of paralysis, burns, bruises, and abrasions can occur frequently. Be sensitive to their problems and needs, particularly when placing them in their seats and when handling hot beverages and foods. These individuals usually have been trained to take care of themselves. An occasional inquiry on the part of airline personnel, such as "Is everything okay?" would be appropriate.
- (3) Paralytics with strong arms, with paralysis in the lower part of their bodies only, can usually travel alone; but the person with paralysis in arms and legs will almost always travel with a companion. The companion will know and be able to provide for the needs of his charge, but consideration and understanding by flight attendants will make the trip easier for both travelers.

- e. Persons affected by a stroke.

- (1) A stroke is a sudden interruption of the blood supply to the brain, resulting in damage ranging from a very slight weakness to complete paralysis of one whole side of the body.
- (2) In addition to paralysis, the sense of balance may be impaired and there may be a tendency to become easily confused. Hemiplegics may also have great difficulty in finding words to express themselves, may have slurred speech, and may have trouble understanding and remembering what you say to them. In addition, they may laugh or cry for no apparent reason. These are some common symptoms of this type of brain damage over which the person has little or no control.

- (3) Hemiplegics may behave as though they do not see things on their paralyzed side. Some actually cannot see objects on their paralyzed side, others seem to be completely unaware of them. For example, a man may shave only half his face, walk into walls or objects on his paralyzed side, or ignore people who stand to his weak side. A good rule is that it is always safest and easiest for them to move toward their normal or strong side. When it comes to seat location, persons with a normal or strong left side should be seated in an aisle seat on the right side of the aircraft so that they can readily move to their left in case of emergency evacuation. The opposite would apply to persons with a strong right side. This suggestion also applies to passengers with an artificial limb or with an arm or leg in a cast, splint, or brace and to persons with any disability on one side of their body.
 - (4) Often persons with the use of only one hand will need assistance in getting their wraps on and off. Flight attendants, when assisting passengers with a weak or injured arm, should always dress the weak arm first. When removing the coat or sweater, the reverse is true--undress the weak or injured arm last.
 - (5) If some degree of confusion seems evident, speak slowly and distinctly in short, simple phrases, emphasizing the important or action words. Try to stand directly in front of the passenger so that he can see your face clearly. Gestures usually will help too. Keep any question brief and simple, if possible, so that a single, one-word answer is called for. For example, instead of asking "Do you have any baggage that you want checked?" ask, in just one word, "Suitcase?" Then, just a nod or "yes" or "no" answer will do. If the passenger nods yes ask, again in one word, "Where?" thus allowing the person to point if he cannot answer. This keeps the questions clear and simple and allows him to communicate by gesture or in as few words as possible.
- f. Blind persons. When offering assistance to a blind person, the following points should be kept in mind:
- (1) If it appears appropriate, assistance should be offered. Sometimes the offer will be accepted and sometimes it will not. In any event, let the blind person decide, and act accordingly.
 - (2) When blind persons desire to be guided, it is desirable that they hold the attendant's arm rather than the other way around. Using this technique the attendant can stay approximately one-half step ahead so that turns, steps, etc., can be anticipated.

- (3) Airline personnel should be cautioned to forewarn blind persons traveling alone of corridors or a portion of the corridor that suddenly becomes a moving walk. Blind persons should be able to handle this situation if they are aware of its existence.
- (4) Blind people generally employ one of two methods for independent travel. Many use long white canes, often made of aluminum or fiberglass, while others prefer the dog guide. Both techniques enable the user to travel from point A to point B with little or no assistance. In maneuvering through crowded corridors at air terminals, many blind travelers prefer to be accompanied by ground personnel if this service is available. Some would rather make their way from gate to gate and about the terminal unassisted. Again, this should be their choice and, if in doubt, ask.
- (5) Boarding and deplaning present no difficulty for most blind people. The modern methods of independent mobility have provided them with both the necessary skills and the confidence to handle escalators, steps, ramps, and so on. Most blind passengers prefer to board and deplane along with the other passengers, and they do not require special assistance beyond the boarding areas. In situations where enclosed movable ramps are not available, the blind often appreciate some guidance from the terminal building to the aircraft.
- (6) Wheelchairs, special electric carts, and other such conveyances are usually not appropriate when assisting blind travelers. Most have a strong preference for moving about under their own power, and they are thoroughly capable of doing so. The fast-paced walking through crowded hallways, which is sometimes necessary in making close connections, poses no problem for the blind. Some of them have little, if any, difficulty maneuvering about airports and making connecting flights. If a prolonged layover is necessary, most blind travelers wish to occupy themselves in the same manner as other passengers by shopping, visiting, and so forth.
- (7) Mealtime, whether on the ground or in the air, presents no problem for blind people. Flight attendants should tell the passenger what is being served and where the utensils and beverage are located by describing as 10 o'clock or 3 o'clock position. Occasionally, a blind person may ask for assistance in cutting meat or in handling other mealtime chores. In those instances where a menu is available, the flight attendant should offer to read it.
- (8) Most blind persons would appreciate having copies of menus and briefing cards written in Braille.

- (9) In an emergency a blind person will, of course, require the same briefing information as other passengers and will follow directions along with them. Let them feel oxygen masks and life jackets. Should it become necessary to evacuate the aircraft, the blind person, if accompanied by a dog guide, should go down the chute with the dog in his lap. It is the master's responsibility to see that the dog is wearing its harness so that the pair can leave the area quickly once they are on the ground. The harness also helps to activate the dog's sense of responsibility and assurance. If dog and blind person should become separated in the course of evacuation, the dog should be led by its leash to the top of the chute and pushed down after its master has left the plane. Blind persons may use one of two kinds of canes; folding (telescoping or collapsing) or a rigid cane. The folding types do not present a problem since they can fold and fit into one's pocket. The rigid cane is normally 4 1/2 to 5 feet in length. Canes are not necessary for the blind to use in the evacuation of an aircraft as they would use the backs of seats for guidance or follow passengers. The canes would be of help in leaving the vicinity after the blind person has gone down the escape slide. However, the possibility of the cane doing damage to the slide hindering the evacuation does not warrant the blind person keeping his cane with him at his seat and, therefore, should be stowed in accordance with Part 121.589 of the FAR's.

g. Deaf persons.

- (1) The problems deaf persons face are many, such as not hearing boarding announcements (especially critical after prolonged delay when passengers disperse from boarding areas); not understanding pretakeoff briefings; not knowing where briefing cards are located; not being able to hear "fasten seat belt" announcements; not knowing of delays or diversion to alternate airports; and, most important, not being able to hear evacuation instructions which could be given in darkness with loss of electrical power or dense smoke which would impair the use of eyesight for exiting directions.
- (2) Many deaf people use some form of sign language for communication. Therefore, it may be advisable for airlines at major hub airports to have access to persons trained in this skill. Once a deaf passenger has been identified, a variety of methods of communication are available. Sign language is one, written instructions or written answers to questions is another, and lip reading is a third.
- (3) It is recommended that a sign be placed near the check-in counter that would state, "Persons with hearing difficulties,

please advise agent." The ticketing agent could then stamp the ticket or envelope so that the flight attendant could readily identify that person and be able to assure he receives proper instructions throughout the flight. Agents should assure that any schedule change is reflected on the arrival and departure boards, and any deaf passenger is made aware of the change. Security check areas should be identifiable and written procedures should be clearly visible so that the deaf person will know what to expect during the check.

- h. Elderly passengers with the common physical problems of old age. Hearing impairment and a loss of agility are the most common problems with elderly individuals. The higher noise level in busy terminals may cause little or no difficulty for persons with normal hearing but can make communication with elderly passengers more difficult. To compensate for hearing problems, airline personnel should stand directly in front of the passenger, speak somewhat slower than normal, and speak a little louder than normal.
- i. Persons who have had laryngectomies. Flight attendants should be prepared to utilize alternate means of communication, or to react comfortably to the use of a voice box used to transmit speech-like sound.

6. DOG GUIDE.

- a. A guide dog has been carefully selected for intelligence, responsibility, and gentleness and has been thoroughly trained for its job. The blind person, too, has received intensive instruction in the care and control of the dog. He or she has been taught to keep it well groomed and healthy and not permit it to run free. The dog should remain with its owner throughout the flight. They should be seated in the first row seat of a section next to the bulkhead where there is more room for the dog. A window seat is also recommended so that other passengers will not be required to step over the dog to reach the aisle. Dogs and blind persons work together as a closely coordinated team, and any interference between them, such as grabbing the harness or seizing the master's arm, can be distracting. If it appears that help is needed, address the blind person quietly, identify yourself as an employee of the airline, and offer assistance. Persons need not be fearful in approaching dog guides. They are taught to accept strangers calmly and are frequently exposed to new situations and people. However, they should not be touched or petted, and flight attendants should discourage children from yielding to their natural desire to pat the dog.
- b. If it is necessary to give directions to a man or woman with a dog guide, try to be specific in terms of right, left, or straight ahead so that the master can direct the dog properly. On the other hand, if

you are walking with the pair through the terminal or to the plane, the blind person may temporarily drop the harness and ask you to act as guide while the dog heels on leash at the owner's left side. In this case, go to the individual's right side and offer your left arm. Escalators should be avoided as they can injure a dog's paws.

- c. Since the dog's collar is made of metal and there is a metal component in the leather-covered harness, the magnetometer will be activated if the dog passes through it. Consult the blind person-- some will be glad to have their dogs held by the leash while they pass through the magnetometer, while others may prefer a handheld detection device.
7. CANES AND CRUTCHES. Tests revealed that persons who were allowed to use canes and crutches to evacuate an aircraft increased their time in reaching the exit. Not only is time wasted trying to locate, unstrap, and untangle the canes or crutches from under the seat, but because of the narrow aisle the passenger cannot get the maximum benefit of their use. Thus, crutches and canes should be stored in an approved stowage compartment and would not be used during emergency evacuation.
8. GROUP TRAVEL. Group tours of handicapped persons are increasing in size and frequency. Since these tours vary in the ratio of passengers with and without handicaps, it is not possible to develop a procedure that would cover all instances. Accordingly, operators should develop procedures for each individual trip based on the number of handicapped, including seating arrangements and provisions for extra attendants who have had training in evacuating the handicapped. In developing these procedures, airline personnel must keep in mind the many various types of disabilities which may be in a passenger mix.
9. SEATING HANDICAPPED PASSENGERS. FAA's Civil Aeromedical Institute has conducted research to determine where handicapped passengers should be seated in an aircraft operated under Parts 121 and 135 so that, in the event of an emergency evacuation, they can leave the aircraft, either unassisted or assisted, by the safest and most expedient route while not slowing the evacuation.
 - a. Those nonambulatory handicapped passengers should be seated in aisle seats where they would be near the end of lines of passengers being evacuated through floor-level, nonoverwing exits. Tests revealed that due to the narrow aisle width, an accompanying attendant trying to lift the handicapped person would temporarily block the aisle and hinder other passengers attempting to evacuate. Once the mainstream of evacuating passengers has passed, the attendant and the handicapped passenger can normally catch up to the flow since there is a bunching at the exit. Two nonambulatory passengers with attendants should not be seated directly across the aisle from each other because their attendants would interfere with each other while attempting to remove the nonambulatory passengers from their seats.

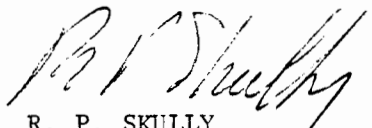
- b. To determine the amount of assistance nonambulatory passengers will require to evacuate the aircraft, an agent should first ask the passengers what their capabilities are. If there is some question as to whether an individual is ambulatory or nonambulatory, the agent may ask him to perform a simple test such as transferring from a wheelchair, unaided, to another seat. Additionally, the passenger may furnish evidence of his capability, such as a driver's license or a statement signed by a qualified professional person (e.g., a physician or physical therapist).
- c. Ambulatory handicapped passengers should be seated in areas in which evacuation would normally occur through a floor-level, non-overwing exit.

10. TECHNICAL INFORMATION.

- a. Many rehabilitation centers offered excellent recommendations in response to the Notices of Proposed Rule Making. Almost without exception, each institution offered to help train air carrier personnel in the handling of handicapped persons. It is recommended that operators contact their State Director of Vocational Rehabilitation for any training assistance needed. The Kenney Rehabilitation Institute initiated a program in 1967 to educate personnel in transportation, hotel, restaurant, and entertainment industries in improved techniques for serving disabled people. A copy of their report, "Wheelchairmanship Project," was published on April 30, 1971. A copy of this report, No. PB-215146, may be obtained from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161.
- b. The Kenney Institute offers a training package which would equip an instructor with all the materials he would need to conduct his own training class. The disabilities treated in the training materials include both permanent and temporary disabilities. This package was offered in the 1967 program and was updated in 1975. It may be purchased for \$45 from Publications, Kenney Rehabilitation Institute, Minneapolis, Minnesota 55404. (Additional booklets may be purchased for \$.50 each--minimum order of 10.) The training package includes:
 - (1) Sixty-one 36mm color slides.
 - (2) One audio tape cassette (approximately 30 minutes).
 - (3) One audio visual script.
 - (4) An instructor's manual giving details on how to organize and conduct classes.
 - (5) A supply of student reference manuals.

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- (6) A supply of student test booklets and student answer forms.
- (7) An instructor's answer booklet giving correct answers to all test questions.
- c. The Seeing Eye, Inc., has developed a leaflet, "Seeing Eye Dogs as Air Travelers." It will be distributed free of charge, and airline personnel representatives are encouraged to request copies for their employees by applying to The Seeing Eye, Inc., Morristown, New Jersey 07960.



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